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DRAFT:
[redacted] cb
28 August 1967

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I. Introduction

A. Objectives of the ESRD

B. ~~Uses and~~ necessity for producing on ESRD

C. ~~Reasons for~~ needing information on systems

1. Pre-operational information (2-3 years prior to operation)

a) To prepare math models

b 2) Mensuration techniques

c 3) evaluation techniques

d 4) Develop and procure equipment

e 5) prepare computer programs

f 6) Breifing purposes

g 7) to prepare coordinate reference system

h 8) planning & management/recruitment/training requirements

2. Preflight and inflight Information (Mission by mission)

a 1) Initial phase film handling at the processing site

b 2) Collateral collection

c 3) Plotting and indexing coverage

d 4) PI team organization

e 5) Photogrammetric support planning

3. Frame Information

a 1) Security classification

b 2) PI identification, evaluation, & readout

c 3) Indexing

d 4) Correlations

4. Continued liaison with manufacturers

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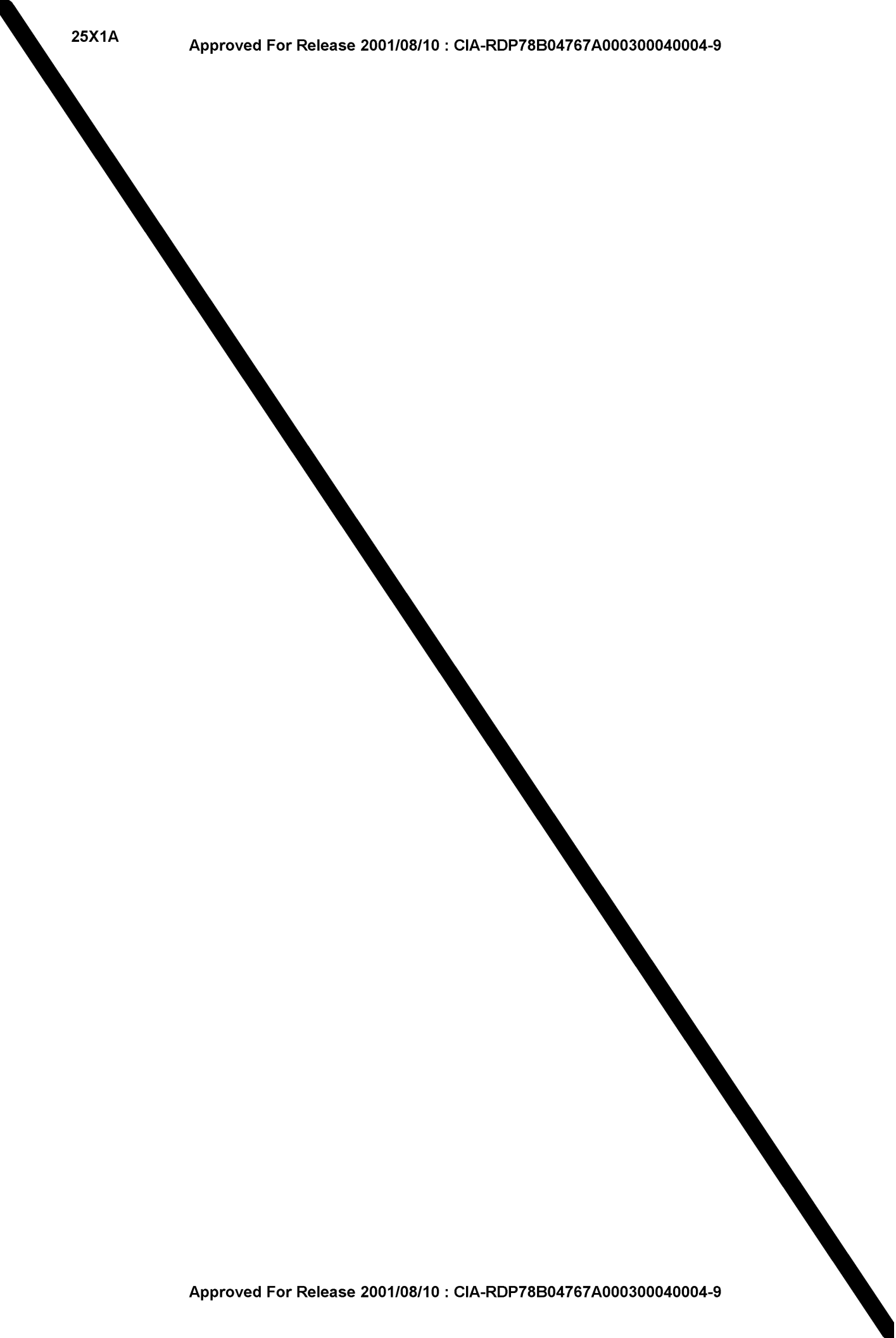

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a) effects of modifications

b) suggestions that may assist in exploitation

II. Satellite Systems

a. Data needed prior to operational status

1) Standardized information formats

2) Info on main system components

a Data block
b Pan Geometry if applicable.

3) Support system components

4) System parameters (theoretical)

5) Mission parameters (theoretical)

6) Camera information

a) optical requirements.

b) formats

c) Recorded info

d modes

e formulas

f footages
g type of product
h NO of frames per mission.
i cycling rate
j shutter speed sequence
k Frame numbers

Lens filters focal length resolution
size & weight/length
Leader & Numbering sequence

& Film Characteristics
a film type
b film Thickness
c characteristic Curves
d latitude
e film speed
f processing method.
g Resolution
h shrinkage

7) Vehicle information

IMC

b. Mission Preflight information

a. 1) Individual Camera calibrations

2) Vehicle and orbital calibrations

velocity
attitude tolerances

3) Vehicle and camera acceptance anomalies

c. Mission inflight Information

1) Ephemerides info (Rev, operations, frame nos.) etc

a) Vehicle attitude by frame

(1) pitch

(2) Roll

(3) Yaw

(4) bearing

check

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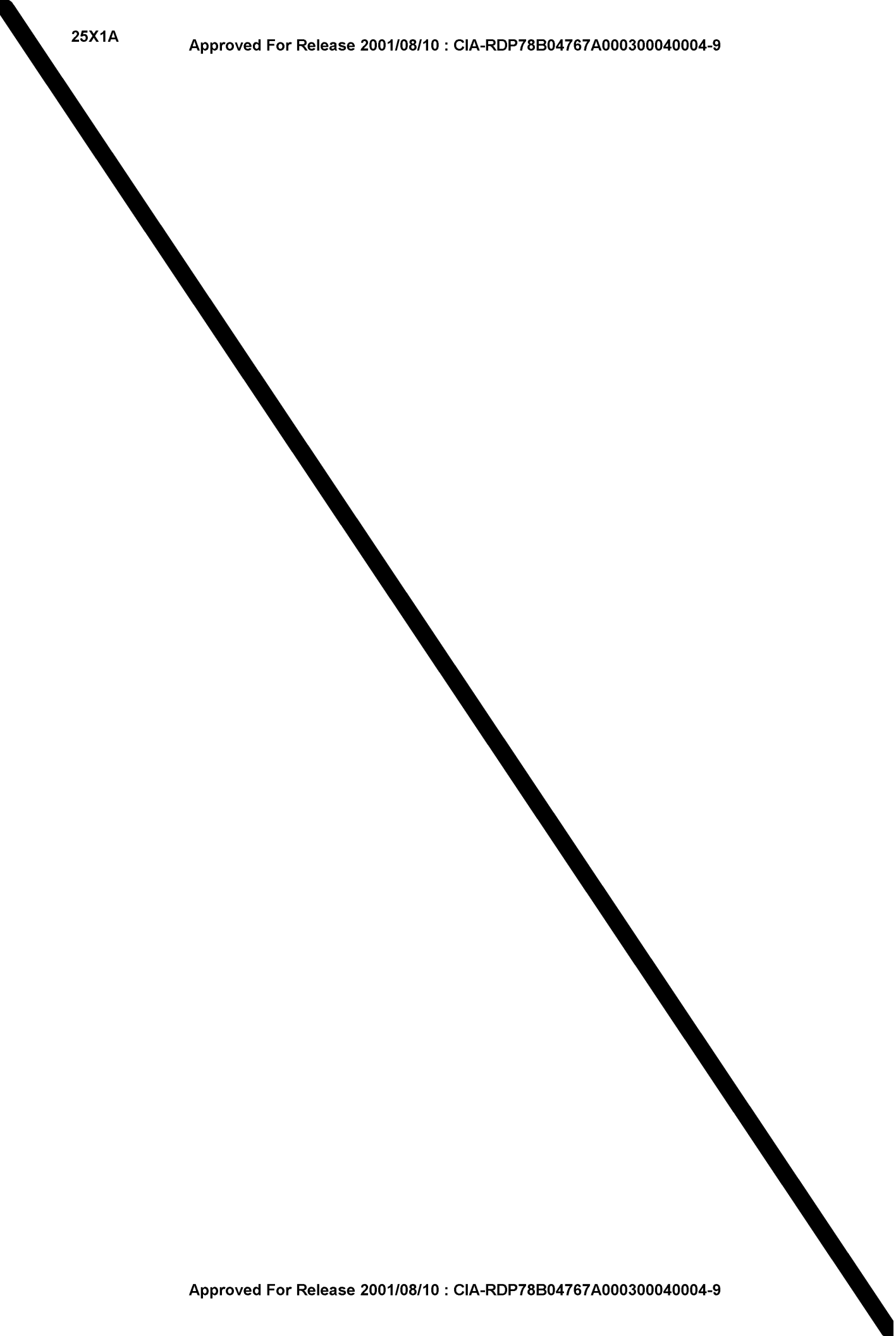

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2) Time by frame

3) Photographic date

4) Security Classification by frame

5) Solar elevation

6) Predicted frame lengths (if applicable)

7) Latitude & longitude by frame

8) R & D experiments

9) Suspected Malf or anomalies

10) Data to correlate auxillary cameras to primary Camera (s) if applicable.

11) Filter/exposure changes if applicable

d. Information to be recorded on each frame

1) Human readible

a) Mission number

b) Revolution number

c) frame number

d) camera identifier

e) ~~camera ident~~ indexing marks

f) end of frame mark. if applicable

g) nodal trace if applicable

h) operation number if applicable

fiducials or reseaus

2) Machine readible

a) attitude & data at instance of clock interrogate

b) scan angles if applicable

c) vehicle time

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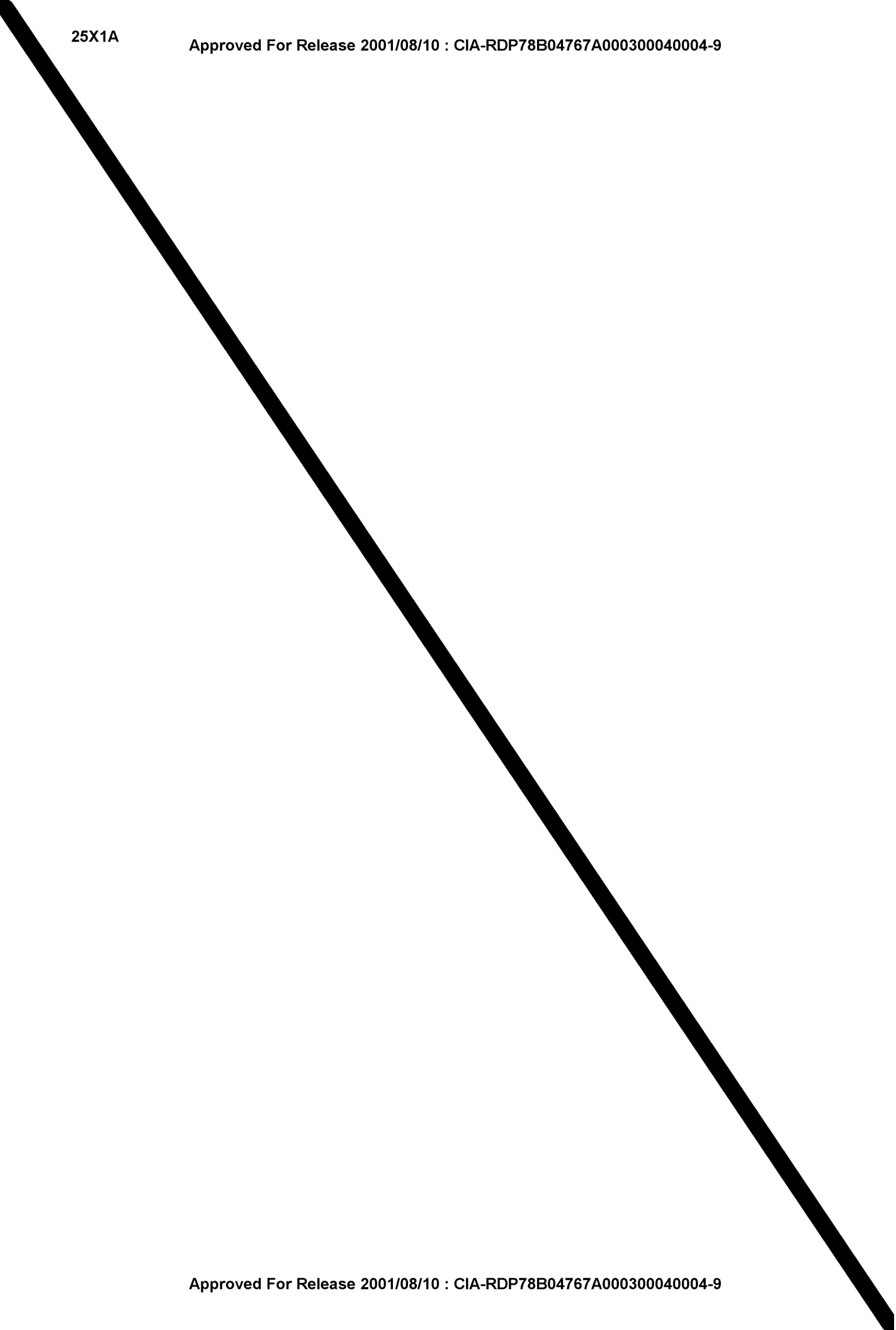

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e. Information to be recorded at end of each revolution

1) end of rev mark identifiable prior to film processing.

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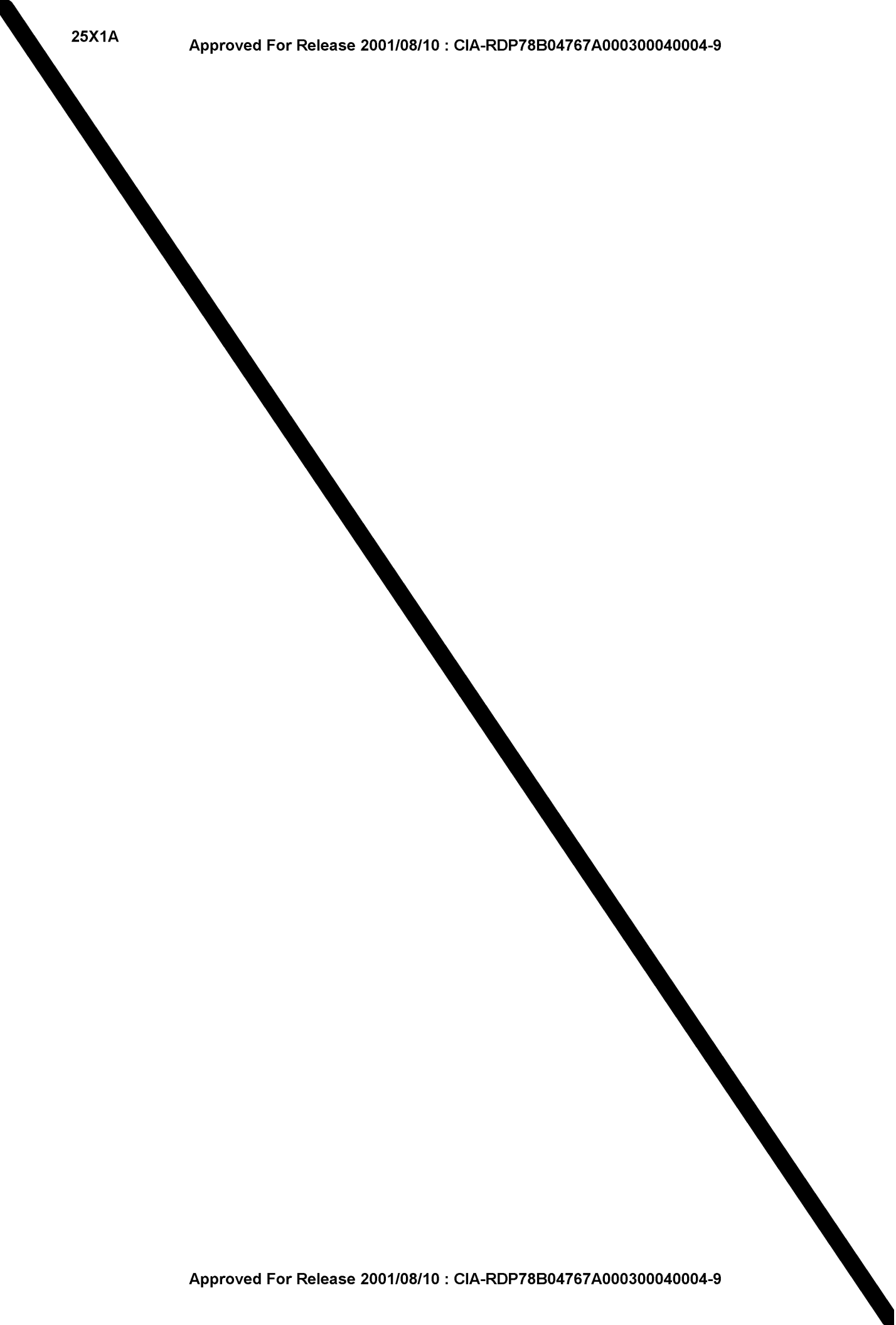

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Non Satellite Systems

a Data needed prior to operational status
1) Same as a with exception of no 1

b. Data needed during ~~[redacted]~~ Operat program
1) Camera calibration
2) Standardized information formats
3) Vehicle attitude sy frame (SCBDM)
4) elapsed Time sy frame
5) Date
6) Classification
7) Solar elimation
8) Lat & Long sy fram.
9) R&D experiments
10) Suspected Malf
11) Proposed flight Track
12) Data to correlate auxillary equip to primary Camera.

c. Data Needed During Operational Missions
1) Human readable
a. Mission No

c. Info recorded on each frame
1) Human readable
a. Mission No ✓
b. frame No ✓
c Cam Identifier ✓

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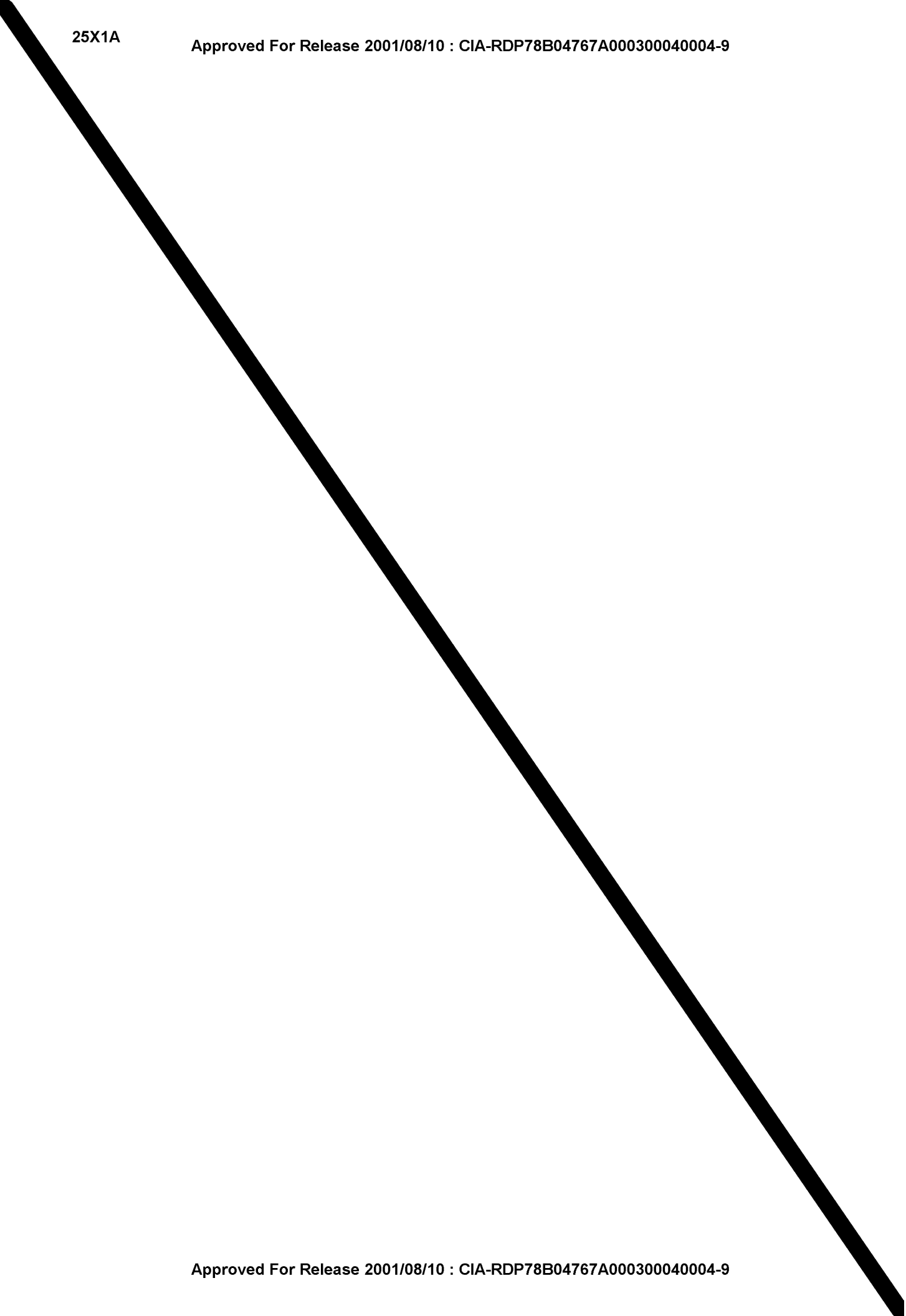

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Latitude
Longitude
Vehicle speed.
Cage
V/h indicator

Machine readable
5C60m Tapes.

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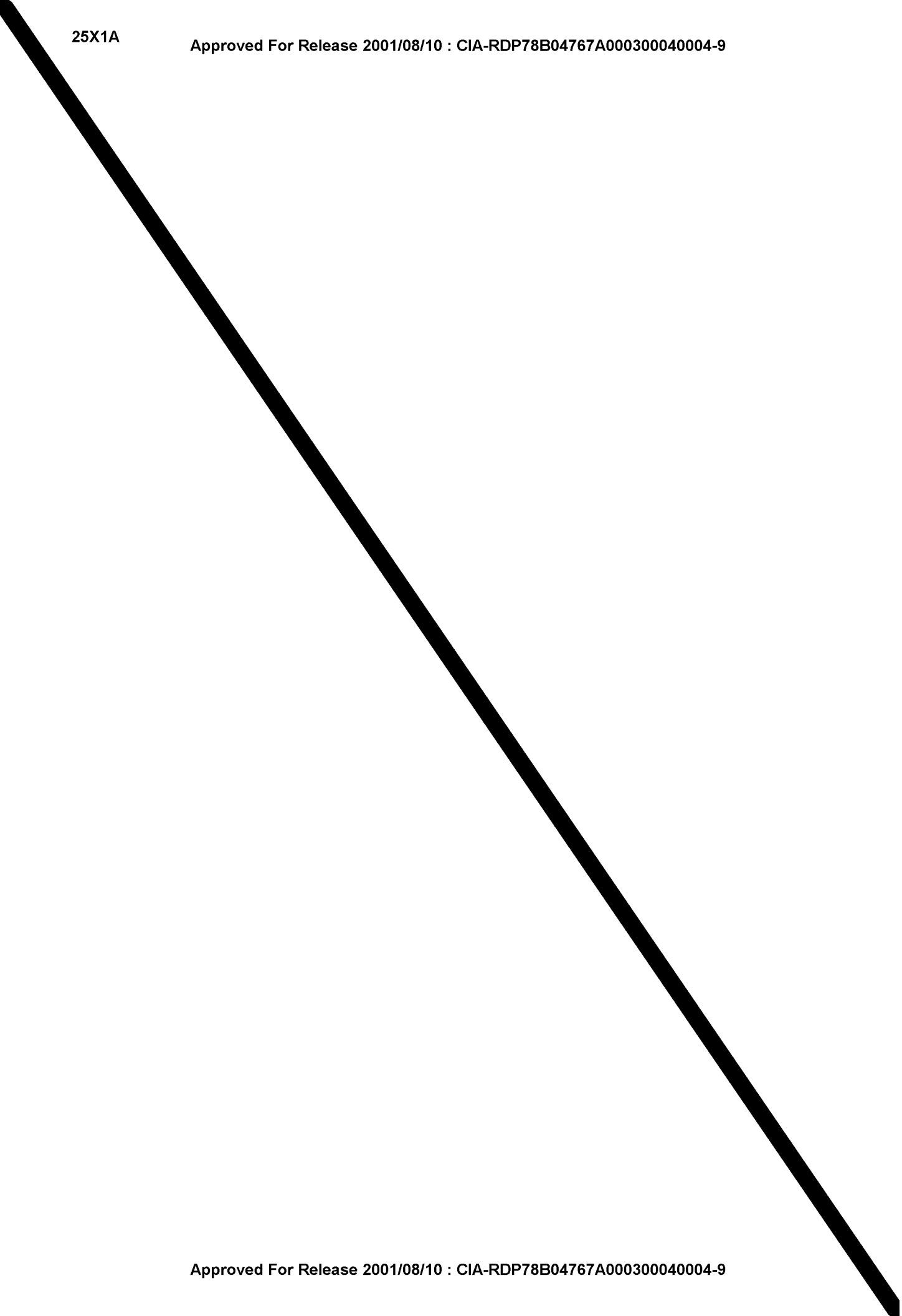

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II Non Photographic Image Collection Systems

A. Infrared systems.

The following information is needed in addition to that indicated for photographic systems.

1) Prior to operational status.
   a. Theoretical instantaneous field of view
   b. Temperature resolution
   c. type of detector
   d. type of display
   e. type of recording
   f. wavelengths
   g. bandwidth
   h. Detectivity (D) of system
   i. Inherent distortions
   j. Noise equivalent power ratio
   k. Slant range
   l. effective focal length
   m. aperature width
   n. film advance rates
   o. altitude of vehicle.

2. Preflight and in flight information
   a. Local time
   b. Local temperatures
   c. bias
   d. gain setting
   e. scanner look angle
   f. instantaneous field of view

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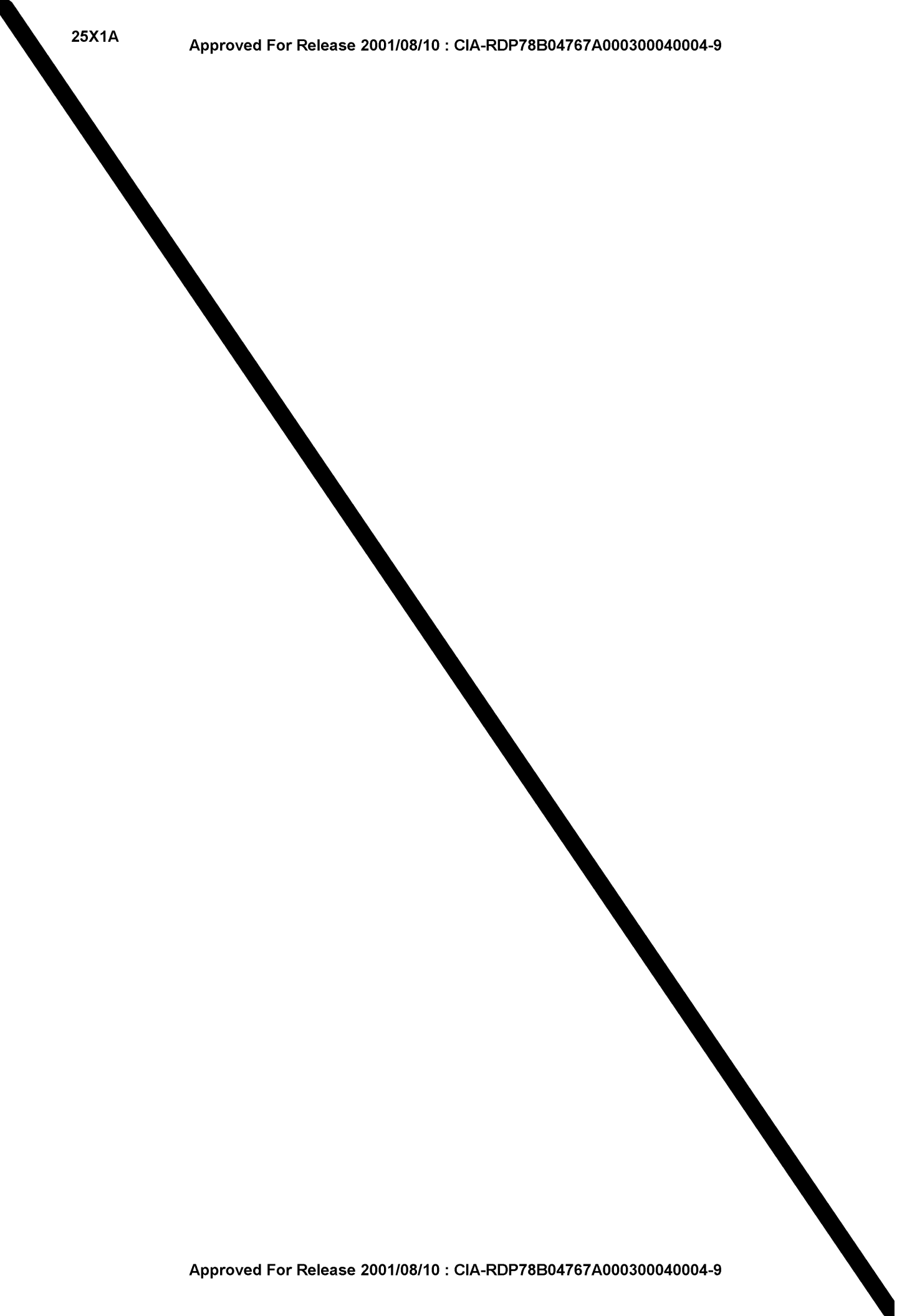

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